

1     WE CLAIM:

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3             1.     For use in apparatus for processing wire  
4     to cut the wire into sections and to expose section wire  
5     ends, the wire having an inner core and sheathing about  
6     said core, the apparatus including means for displacing  
7     the wire axially endwise, the combination comprising:

8             a)     multiple blade structures, including at  
9     least two of said structures that move adjacent one  
10    another as said two structure move relatively oppositely  
11    toward and away from said axis in directions generally  
12    normal to said axis,

13            b)     each of said two structures having first  
14    and second cutting edges,

15            c)     said cutting edges configured such that,  
16    when the two said structures are moved relatively  
17    longitudinally in a primary mode, two of said cutting  
18    edges cut through the wire, and when said two structures  
19    are moved relatively longitudinally in a second mode, the  
20    remaining two of said cutting edges cut into the wire  
21    sheathing to enable stripping of the sheathing of the  
22    wire.

1           2.    The combination of claim 1 wherein at  
2    least one of said two structures defines first shoulders  
3    elongated longitudinally and forming a space between  
4    which the other of said two structures extends during  
5    said relative movement.

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8           3.    The combination of claim 2 wherein said  
9    first shoulders are laterally spaced apart and face one  
10   another, and said other of said two structures has second  
11   shoulders also elongated longitudinally and extending in  
12   proximity with said first shoulders during said relative  
13   movement.

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16           4.    The combination of claim 1 wherein said  
17   apparatus includes actuating means for relatively moving  
18   said two structures as defined, and including programming  
19   means operatively associated with said apparatus to  
20   provide programmable strip depth of said sheathing.

1           5.    The combination of claim 3 wherein said  
2   other blade structure including a blade and a blade  
3   holder carrying said blade, said holder forming said  
4   second shoulders.

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7           6.    The combination of claim 1 wherein each  
8   of said structure extends at opposite sides of said axis.

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11           7.    The combination of claim 1 wherein said  
12   blade structures include blade plates having said cutting  
13   edges, said blade plates extending in close, parallel,  
14   overlapping relation during said relative movement.

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17           8.    The combination of claim 7 wherein said  
18   cutting edges on two of said overlapping plates provide  
19   V-shaped edge portions that overlap when the blade plates  
20   are moved in said secondary mode during said relative  
21   movement.

1           9. The combination of claim 3 wherein said  
2 first and second shoulders extend in endwise alignment  
3 with one another during said relative movement.  
4

5  
6           10. The combination of claim 3 wherein said  
7 first and second shoulders extend in laterally  
8 overlapping relation during said endwise movement.  
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11           11. The combination of claim 1 including  
12 support means for said blade structures for holding the  
13 blade structures in fixed positions on the support means,  
14 each blade structure comprising two discrete blade  
15 plates, one plate carrying one V-shaped cutting edge and  
16 the other plate carrying another V-shaped cutting edge.  
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19           12. The combination of claim 11 including  
20 loading means for loading at least one blade structure  
21 into said support means.  
22  
23

1           13. The combination of claim 10 including  
2 retainers carried by the support means for holding the  
3 blade structures attached in fixed positions on the  
4 support means, and to allow release of the blade  
5 structures from the support means, enabling their  
6 selective replacement.

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9           14. In wire processing apparatus wherein wire  
10 is moved endwise along a travel path, the combination  
11 comprising:

12           a) blade pair means including two blade  
13 structures each extending at opposite sides of the wire  
14 travel path,

15           b) at least one drive means,

16           c) and other means operatively connected  
17 between said drive means and said blade structures, and  
18 responsive to operation of the drive means to cause one  
19 blade structure to be relatively displaced in direction  
20 A toward said path as the other blade structure is  
21 relatively displaced in direction -A, to process the  
22 wire, and subsequently to cause said one blade structure  
23 to be relatively displaced in direction -A, as said other  
24 blade structure is relatively displaced in direction A,

1 to process the wire.

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4 15. The combination of claim 14 wherein each  
5 said blade structure includes two blades.

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8 16. The combination of claim 15 wherein said  
9 two blades respectively face in direction A and -A.

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12 17. The combination of claim 14 wherein each  
13 of said two blades has a generally V-shaped cutting edge.

1           18. In the method of processing wire wherein  
2 the wire is moved endwise along a travel path, the steps  
3 that include

4           a) providing blade pair means including two  
5 blade structures each extending at opposite sides of the  
6 wire travel path,

7           b) providing at least one drive means, and  
8 other means operatively connected between the drive means  
9 and the blade structure,

10          c) and operating said drive means to cause  
11 one blade structure to be relatively displaced in  
12 direction A toward said path as the other blade structure  
13 is relatively displaced in direction -A, to process the  
14 wire, and subsequently to cause said one blade structure  
15 to be relatively displaced in direction -A, as said other  
16 blade structure is relatively displaced in direction A,  
17 to process the wire.

1           19. The combination of claim 1 wherein the  
2 first and second cutting edges of one structure have  
3 different configurations, and the first and second  
4 cutting edges of the other structure have different  
5 configurations, the first cutting edge of the first  
6 structure having substantially the same configuration as  
7 the second cutting edge of the second structure, and the  
8 second cutting edge of the first structure having  
9 substantially the same configuration as the first cutting  
10 edge of the first structure.

11  
12  
13           20. The combination of claim 19 wherein the  
14 first cutting edge of the first structure has C-shaped  $C_1$   
15 and the second cutting edge of the first structure has C-  
16 shape  $C_2$ , and where  $C_1$  is larger in size than  $C_2$ .